In, On and Around The Water
Risk Management

SCUBA Diving

Rafting

Fishing

Boating

Swimming

How Off-Duty Sailors And Marines Drowned In/On The Water, FY 98-02

Rank/Rate	Age	Activity
BUCN	18	Swimming
UTCA	19	SCUBA Dive
EM3	19	Boating
PFC	19	Boating
SN	20	Swimming
SN	20	Swimming
AN	20	Swimming
LCPL	20	Swimming
LCPL	20	Swimming
MIDSHIPMAN	21	Swimming
MS3	21	Swimming
AT3	21	Boating
HT3	21	SCUBA Dive
LPCL	21	Swimming
LPCL	21	Swimming
CPL	21	Swimming
OS2	22	SCUBA Dive
MM3	23	Swimming
MASN	23	Snorkeling
CPL	23	Snorkeling
SGT	23	Swimming
IC3	24	Swimming

How Off-Duty Sailors And Marines Drowned In/On The Water, FY 98-02 (Con't)

Rank/Rate	Age	Activity
AN	26	Swimming
SGT	26	Swimming
MM2	27	Boating
MASN	28	Snorkeling
CPL	29	Swimming
LT	30	Boating
HM1	32	Swimming
HM3	33	Swimming
ITC	33	Boating
BM1	33	Boating
SK1	35	Boating
BM1	37	Swimming
IT2	37	Swimming
BMC	38	Snorkeling
AZ2	42	Snorkeling
YNCS	42	Boating
MSGT	42	SCUBA Dive
STGCM	45	Swimming
FTCS	46	SCUBA Dive
CAPT	47	Boating
CDR	49	SCUBA Dive

Total = 43

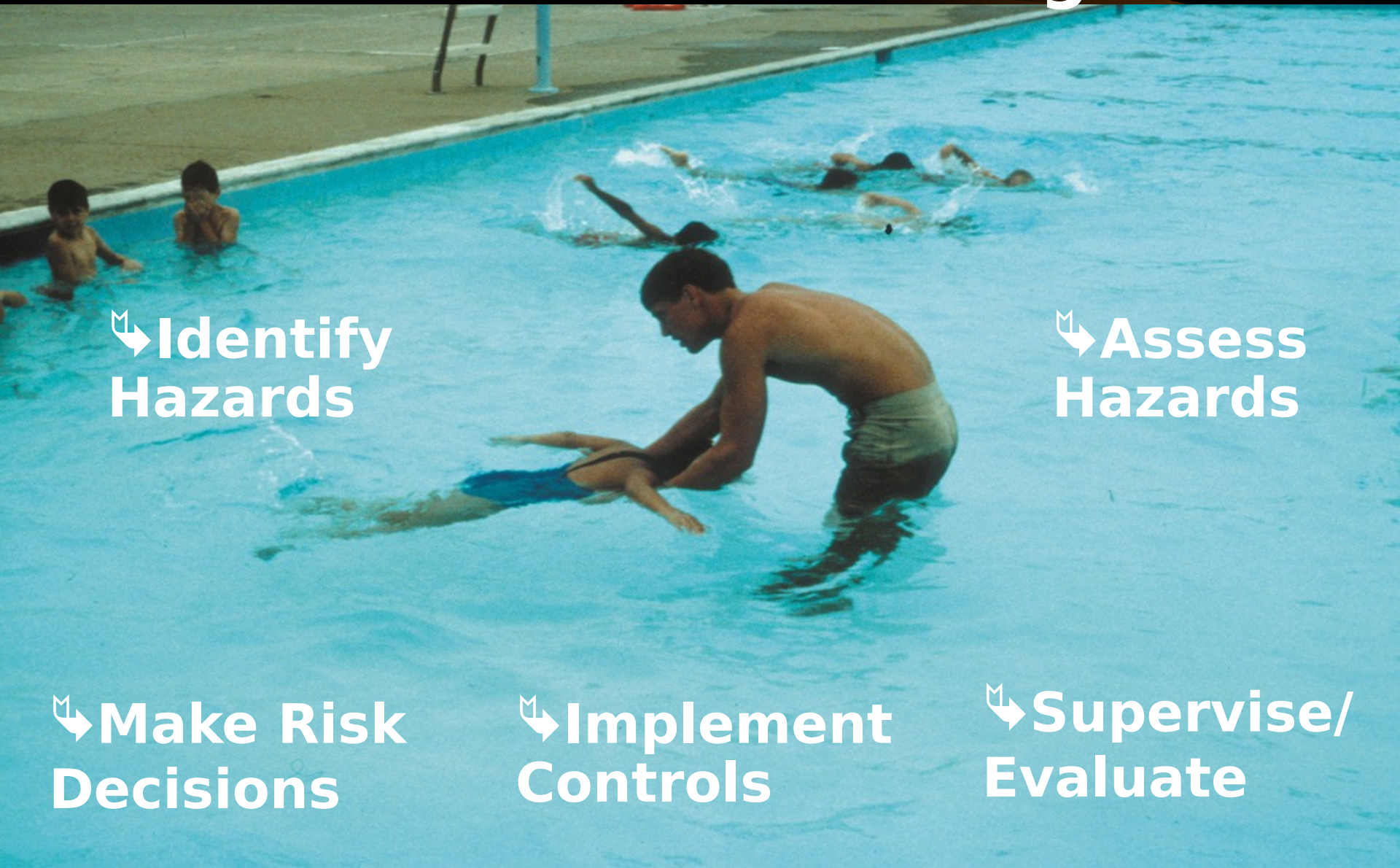
How Off-Duty Sailors And Marines Drowned While Around The Water, FY 98-02

Rank/Rate	Age	Activity
SA	18	Found In Water
LCPL	20	Swept Off Cliff
OS3	21	Found on Beach
SA	21	Fall From Pier
DC3	21	Fall From Pier
LCPL	21	Fall From Rocks
ET3	22	Fall From Pier
CPL	23	Fall From Cliff
LCPL	24	Swept Off Cliff
HM3	37	Fall From Pier

Total = 10

Swimming

Risk Management



- Identify Hazards
- Assess Hazards
- Make Risk Decisions
- Implement Controls
- Supervise/ Evaluate

Swimming, What Are The Hazards?

- Sea *Life*
- *Insufficient Water Depth*
- Overestimation Of Swimming Ability
- Shallow Water Blackout
- Strong Currents
- Alcohol
- Hypothermia
- Swimming Alone

Swimming,
What are The Risks?

- Swimming Alone - Extremely Dangerous

- Shallow Water Blackout - Extremely Dangerous
- Strong Currents - Very Dangerous
- Alcohol - Very Dangerous
- Sea Life - Moderately Dangerous
- Hypothermia - Very Dangerous
- Overestimation Of Swimming - Extremely Dangerous
- Insufficient Water Depth - Extremely Dangerous

Swimming, What Are The Risk Decisions And Controls?

✓Swimming Alone

Swim In Areas With Life Guards/Use The Buddy System

✓Shallow Water Blackout

Discontinue The Dangerous Technique Of Breath-Holding And Hyperventilating

Swimming, What Are The Risk Decisions And Controls?

- Insufficient Water Depth — Check Water Depth
- Strong Currents — Observe Warning Signs/Check With Life Guard - If Caught In Currents - Go With Flow/Swim Diagonally
- Alcohol — Prior To And During -- Don’t Drink Alcohol Beverages

Swimming, How to Survive?

- ***Monitor Effectiveness Of Controls***
- ***Watch For Changes***

SCUBA Diving
Risk Management

- Identify Hazards
- Assess Hazards
- Make Risk Decisions
- Implement Controls
- Supervise/Evaluate

SCUBA Diving, What Are The Hazards?

- Lack of Certification
- Failure to Monitor Air
- Supply
- Exceeding Safe Diving
- Depths
- Strong Currents
- Not Observing Decompression Limits
- Faulty Equipment
- Poor Visibility
- Diving Alone
- Not Displaying Diving Flag

SCUBA Diving, What Are The Risks?

- Lack of Certification - Extremely Dangerous
- Failure to Monitor Air Supply - Extremely Dangerous
- Exceeding Safe Diving Depths - Extremely Dangerous
- Strong Currents - Very Dangerous
- Poor Visibility - Moderately Dangerous
- Diving Alone - Extremely Dangerous
- Not Displaying Diving Flag - Very Dangerous

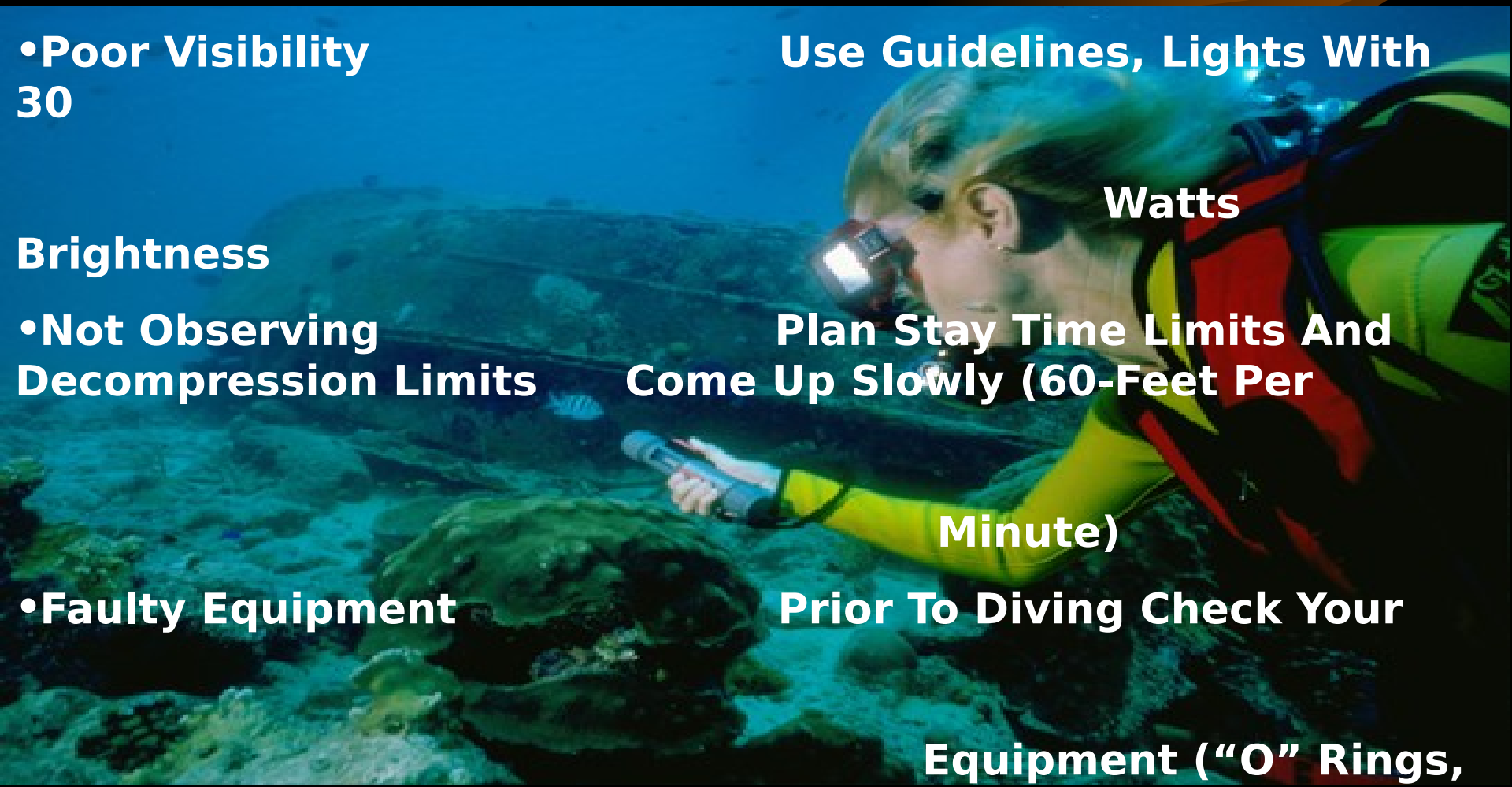
SCUBA Diving, What Are The Risk Decisions And Controls?

- **Lack of Certification**
  - **Obtain Training - Open Water**
  - **SCUBA Diving Is Different**
  - **For Cave/Cavern Certification**
- **Failure to Monitor**
  - **Practice The Two-Thirds Rule**
  - **Air Supply**
- **Diving Alone**
  - **Dive With A Certified Buddy**
- **Exceeding Safe Diving**
  - **Maintain The Limitations Of**

SCUBA Diving, How To Survive?

- ✓ Monitor Effectiveness Of Controls
- ✓ Watch For Changes

SCUBA Diving, What Are The Risk Decisions And Controls?



- Poor Visibility — Use Guidelines, Lights With 30 Watts Brightness
- Not Observing Decompression Limits — Plan Stay Time Limits And Come Up Slowly (60-Feet Per Minute)
- Faulty Equipment — Prior To Diving Check Your Equipment (“O” Rings,

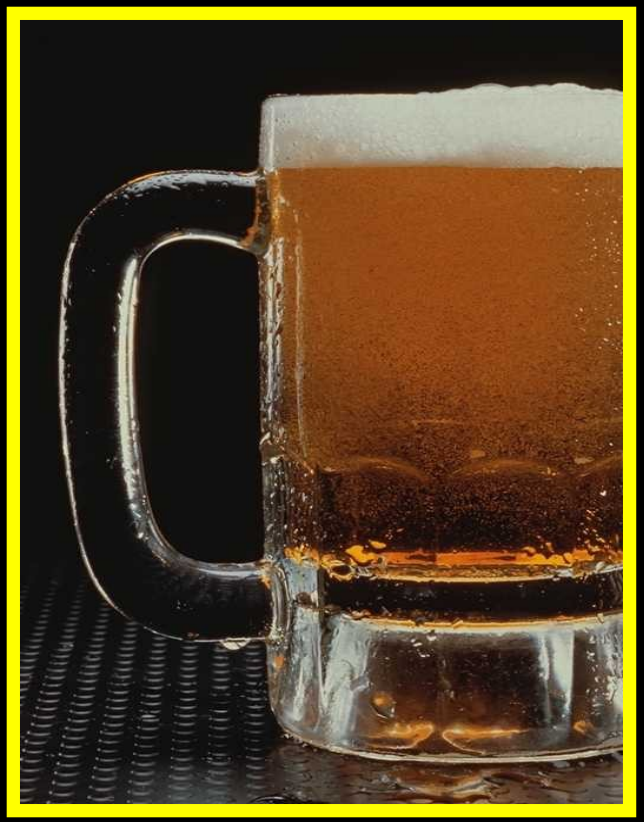
Boating

Risk Management

- Identify Hazards
- Assess Hazards
- Make Risk Decisions
- Implement Controls
- Supervise/Evaluate

Boating, What Are The Hazards?

- PFDs Stowed/Inaccessible
- Collisions
- Alcohol
- Falls Overboard
- Sea State
- Operator Inexperience
- Waders



Boating, What Are The Risks?

- PFDs Stowed/Inaccessible - Extremely Dangerous
- Collisions - Extremely Dangerous
- Alcohol - Very Dangerous
- Falls Overboard - Extremely Dangerous
- Sea State - Very Dangerous
- Operator Inexperience - Extremely Dangerous
- Waders - Moderately Dangerous

Boating, What Are The Risk Decisions And Controls?

- PFDs Stowed/Inaccessible

PFD & Patrons To

Keep Throwable Within Reach Require Wear PFD

- Collisions/Alcohol/Falls Overboard

Conduct Small Boat Safety Course - Test Renters On Material

- Sea State

Monitor Weather

Boating, What Are The Risk Decisions And Controls?

- Operator Inexperience

Small Boat Safety

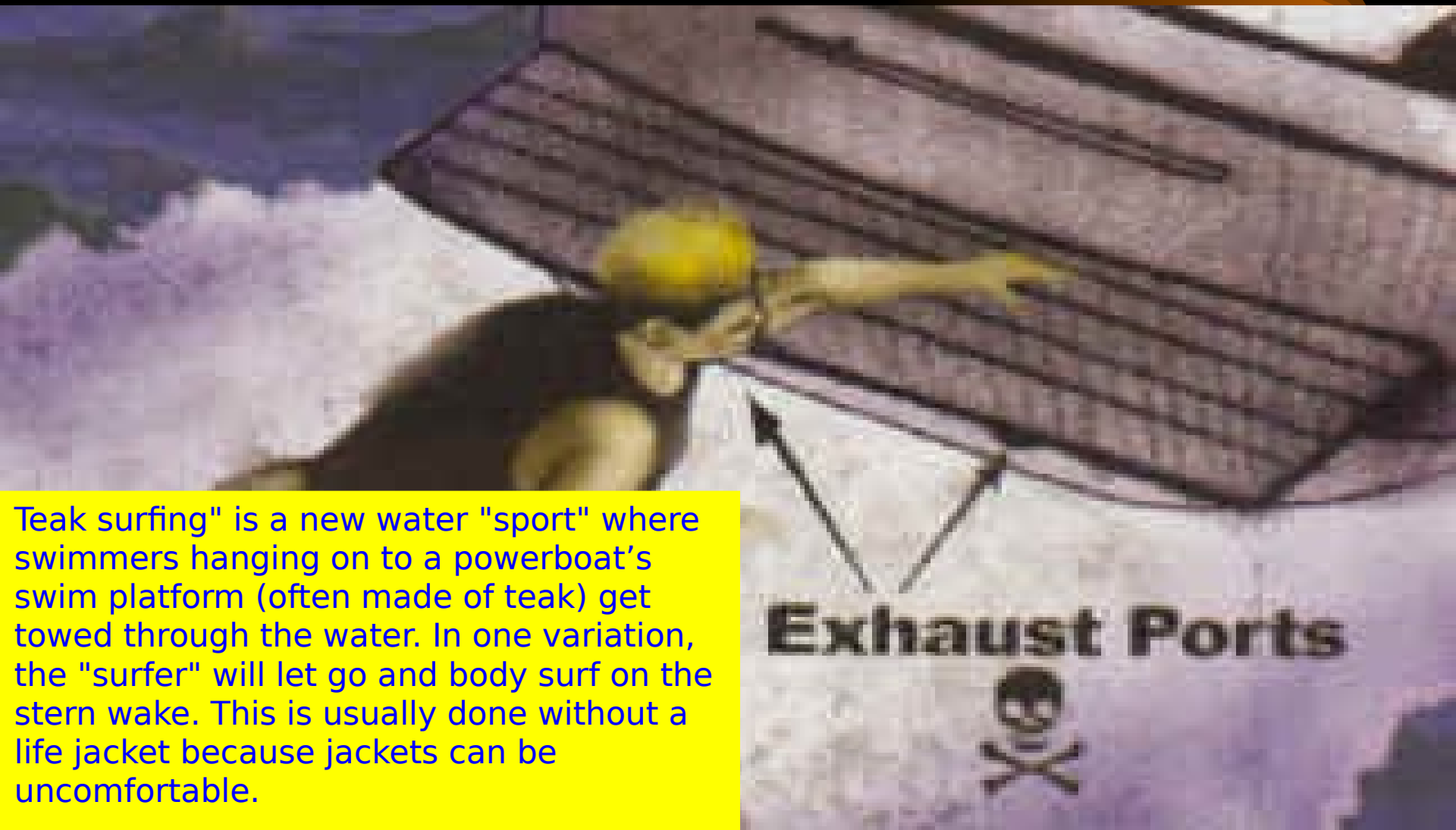
Course To Include

Man overboard

Boating,
How To Survive?

- Monitor Effectiveness Of Controls

Teak Surfing and Carbon Monoxide Poisoning



Teak surfing" is a new water "sport" where swimmers hanging on to a powerboat’s swim platform (often made of teak) get towed through the water. In one variation, the "surfer" will let go and body surf on the stern wake. This is usually done without a life jacket because jackets can be uncomfortable.

Teak Surfing and Carbon Monoxide Poisoning

In addition to the very obvious danger of swimmers being near moving propellers, there is a less obvious danger of carbon monoxide poisoning. A moving boat can pull a suction behind it which traps exhaust fumes behind the boat. Exposure to engine exhaust can cause teak surfers to faint, and, since they usually don't wear a life jacket *[the two don't go together]*, they can drown.

White Water Rafting Toll
2 Military Fatalities

- 3 MWR Rafts 24 People
- Rafting In River
- PPE/PFDS, Helmets, Wet Suits
- Experienced Guides
- Conditions
  - Class IV-V
  - Known Obstructions
  - Avg. Rate @ 1,500 Cfs
  - Actual Rate @ 3,000 Cfs

White Water Rafting Risk Management

- Identify Hazards
- Assess Risks
- Make Risk Decisions
- Implement Controls
- Supervise/ Evaluate
- Monitor

White Water Rapids, What Are The Hazards?

- **Fast Moving Water**
- **High Water**
- **Dangerous Rapids**
- **Debris**
- **Cold Water**
- **Poor Swimmer**
- **Inexperience**

White Water Rapids, What Are The Risks?

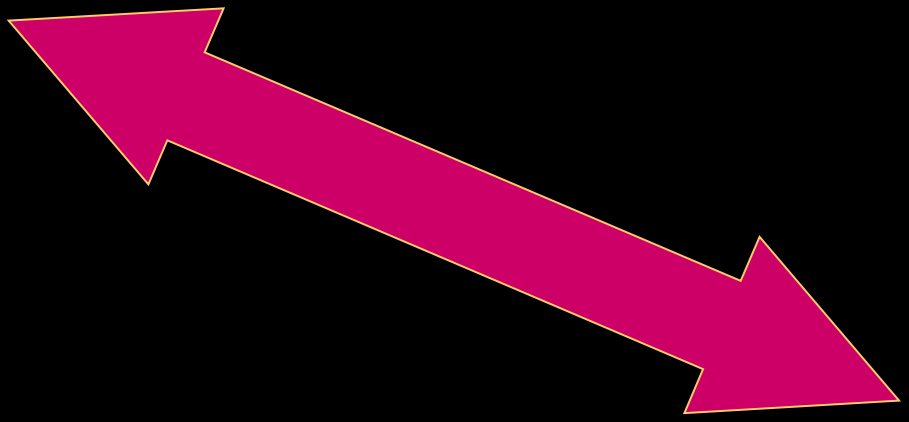
- Fast Moving Water - Very Dangerous
- High Water - Very Dangerous
- Class V Rapids - Extremely Dangerous
- Large Debris In Water - Extremely Dangerous
- Cold Water - Moderately Dangerous
- Poor Swimmer - Moderately Dangerous
- Inexperienced Paddlers - Moderately Dangerous

White Water Rafting, What Are The Risk Decisions & Controls?

* Fast Moving Water
* High Water
* Dangerous Rapids
* Debris
* Cold Water
* Poor Swimmer
* Inexperience
* Scout Area
* Scout Area
* Bigger Boats
* Different Route
* Wet Suit
* PFD/Helmet
* Briefing/Practice

White Water Rafting, How To Survive?

Implement Controls



Monitor Outcome

Part II, Demonstration And Practice Session

Half of Deep End In Of Pool - Station I - 14 Foot Jon Boat/Canoe - Mandatory

End Line for Boat in Water - Desirable

Half of Deep End Of Pool - Station II - Towel/Shirt/Trousers - Mandatory

Rescue Pole, Board - Mandatory

Fishing Pole/Oar - Desirable

Half of Shallow End Of Pool - Station III - Rope, ring Buoy - Mandatory

Picnic Jug/Cooler - Desirable

Half of Shallow End Of Pool - Station IV - Type II PFDs (Var. Sizes)

Part II, Demonstration And Practice Session

The suggested instructional techniques this demonstration and practice session are proven methods in the conduct of similar programs. The sequences given in the examples are proper and appropriate for use in education of your participants in this program.

The optimum situation for groups of 20 to 50 persons is to have the group divided into four subgroups of essentially the same size. Then have four instructors, one at each station, and rotates the groups through the stations at pre-set intervals. This should be rehearsed by the instructors with the lead instructor timing and coordinating the movement of the groups. It is the responsibility of the individual instructors to finish their demonstrations and practice sessions on time and to guide their groups to the next station when the signal comes from the lead instructor.

Part II, Demonstration And Practice Session

Groups of 10 to 20 persons can be effectively handled by only two instructors in a team teaching mode. Each instructor will be responsible for one-half of the group and will handle two of the stations concurrently. At a predetermined time , the instructors will either exchange groups or move their group to the other's stations. If both instructors are conversant with all stations, the need to exchange groups is unnecessary. However, if one of the instructors is uncomfortable with or has little knowledge of one or two stations, the instructors mush exchange groups. Note that the four-station method of instruction can still be used for groups of a dozen persons or so; more individual attention can then be given to the students. This is feasible only when there are sufficient instructors.

Part II, Demonstration And Practice Session

Groups of 10 or fewer persons are best handled by one or two instructors. These instructors will have to be generalists in all equipment and materials referred to, and must be well versed in the use of all equipment. When the group is as small as 10 or fewer students, it is more effective to have all the students rotate as a group through each station. It is important to have each person try each piece of equipment and perform each procedure at least once; the students will learn by the successes and mistakes of other students. This will not happen if the group is subdivided to fewer than for or five in a subgroup, thus making the experience less than an optimum learning situation.

Part II, Demonstration And Practice Session

NOTE: There "*SHALL*" be a lifeguard on duty with no other duties to perform than the supervision of the bathers. This means that regardless of how many instructors are on deck or conducting training, there "*SHALL*" be a lifeguard on duty. In the interest of safety (which is precisely what this program is all about), the National Water Safety Congress, the American Red Cross, the Naval Safety Center, and other agencies and organizations that are noted for their expertise in water safety recommend that you follow this basic safety requirement. What you don't need is a drowning during one of your water safety programs. Be on the safe side and get a "*QUALIFIED*" lifeguard to alertly stand duty while the Water Safety Program is being conducted in, on and around the water.

Part II, Teaching Hints For Station I

Station I - Assemble the group around the Canoe or Jon Boat. Explain how to get into and out of the small craft by stepping gently and deliberately to and from the centerline of the craft. Also explain that when getting into or out of a small craft to keep one's center of gravity low and to hold on to the gunnels (sides) of the craft by keeping one's fingers and thumbs inside the craft. This has the advantage of not exposing the fingers to being pinched or broken between the craft and rocks or a dock. Demonstrate the procedure as you explain it. Have each person get into and out of the craft one at a time. Once all persons in the group have completed the exercise, the first drill is complete. Note: have them wear a PFD.

Part II, Teaching Hints For Station I (con't)

Station I - The second exercise involves the craft (a canoe is best for this exercise) in water next to the edge of the pool. It is prudent to have end lines attached to the craft so that it can be held away from the sides of the pool, thus preventing contact with the pool edging and subsequent damage. Also in case of capsize, the persons in the craft will not come into contact with the sides of the pool, preventing injury. The objective in this phase of the practice session is to have pairs of students enter the canoe or Jon Boat, get into a stable position, preferably kneeling with knees spread and their bottom against a thwart, and test the craft for stability by rocking the craft using their knees.

Part II, Teaching Hints For Station I (con't)

Station I - The third and last drill involves capsizing the canoe. Since this can be hazardous in that the students can come into contact with the canoe in unexpected ways, such as striking their heads on the craft, the demonstration and explanation of exactly what to do and how to do it must be clear. There should be little doubt in the mind of the instructor that students understand exactly what to do and how to do it.

Part II, Teaching Hints For Station I (con't)

Station I - The drill proceeds from the point where the students are in the canoe and have finished the test of the canoe's stability. Now they will tip the canoe over. It would be best that those who doesn't swim or are uncomfortable with this drill, be excused from participation in the drill. Simply observing the drill should give them sufficient information to survive an accidental capsize in the future. Others will be required to wear PFDs while participating in the practice. When the students capsize the canoe, they must maintain hand contact with the canoe at all times. Maintaining hand contact with the canoe will enable them to know where the canoe is at all times. Should the student find him/her in an upside-down position, they will be less confused if they have hold of the canoe, and less likely to strike their head against the canoe. Also the hand contact during the capsize will keep the canoe from striking the student.

Part II, Teaching Hints For Station I (con't)

Station I - The first thing the student is to do after the capsize is to check on the safety of the other person in the canoe. Once all persons are determined to be ok, they move to the opposite sides of the canoe. DON'T permit the students to let go of the canoe or to get to the other side by swimming under it. They must remain in sight of each other over the surface of the water at all times. To get to the opposite side of the canoe, simply go hand-over-hand around the closest end of the canoe until the student is at the center of the canoe, opposite the other person. Three things are now possible. The victims can right the canoe, enter it very gently, sit on the bottom, and hand paddle it to safety. Second, the victims can swim it to shore. And third, bail it out and reenter the canoe. Of the three, the first is preferred, since it is the safest thing to do in any circumstance and requires the least skill. Have the students practice the first method as the described above.

Part II, Teaching Hints For Station I (con't)

Station I - Once the students get the canoe moving in the pool, be extremely careful not to let the canoe (which weighs in excess of 1500 lbs. Because of the water it contains) come in contact with the pool side. Serious damage to the pool and the canoe can result. It should be obvious that if a hand, foot or leg should be caught between the canoe and the pool, injury will result. Once the canoe is at the side of the pool again, the drill is over. Emptying the canoe is the responsibility of the instructor and he/she should take charge immediately. The canoe can be emptied by grasping one end of the canoe while it is perpendicular to the wall and lifting it very slowly, permitting the water to run out. Once the canoe is 20 percent to 30 percent up out of the water, roll it to an upside-down position. With one person on each side of the canoe, slide it out of the water and empty. The canoe can now be righted and slid gently back into the water for the next pair of students.

Part II, Teaching Hints For Station I (con't)

Station I - This completes the requirements for the first station. Note, if there is only one boat available, omit the first routine (above) and demonstrate entering, leaving and stability in the boat that is in the water. Also if groups are large and time is short, you will want to eliminate the first routine and the third routine.

Caution: It has been the experience of many instructors that students like to sit on the edge of the pool with their feet and legs in the water while watching the demonstration or waiting their turn. This is a dangerous practice and must not be permitted due to the potential for injury should the craft come against the side of the pool with any force such as the result of a capsize or something similar. In fact, it is best to have all students stand back from the edge of the pool so that all can see what is going on.

Part II, Teaching Hints For Station II

Station II - This is a simple series of basic rescue skills. They are designed to show how ANYONE can rescue others without putting themselves in jeopardy. Always begin with simple reaching to a person in the water. Reach first with hand, then the foot and then using items commonly found around the water, or on your person such as trousers, shirts, jackets, belts, etc. Forming a human chain, I. e., putting people in the water should be explained as a last resort measure. Elementary forms of rescue should be restricted to simple extensions of one's reach WITHOUT getting into the water. Explain that the rescuers stability is compromised one he/she enters the water or overextends his/her reach. Each person should have the opportunity to actually rescue a person in the water with each piece of equipment. CAUTION: using poles or similar like NEVER poke the reaching device directly at the person. Rather, reach as far as possible to the side of the victim with the reaching device and sweep it toward his/her grasp, slowly and deliberately pull the victim to safety. While pulling the victim in, be aware where the free end of the reaching device is and avoid striking onlookers with it.

Part II, Teaching Hints For Station III

Station III - Because anything is thrown to a victim in the water is at the mercy of wind, wave, current and the rescuer's lack of coordination in a stress situation, these devices must be practiced with as much as possible. Briefly describe and demonstrate each item to be used. Then permit each person to practice throwing each item multiple times, being sure that each person practices with each item. For safety sake, don't have people in the water during this practice session. Note that this session can get out of hand if close watch isn't kept on the group and its activity. Maintain firm control over the group and permit NO HORSEPLAY! A serious attitude by the instructor combined with a firm hand will go a long way in establishing the tone for this session.

Part II, Teaching Hints For Station IV

Station IV - In this session, the students should enter the water and try the PFDs in the situation in which they are designed to be used. Begin the session by showing how to select, fit and adjust the PFD. Next show how to enter the water with a PFD on. Since this is shallow water (approximately four feet deep) it will be easy for all to get into the water and try the PFD by simply lifting their feet. Non swimmers may have to be coaxed, but don't force them into the water if they don't wish to go. You will find that nearly all will try practicing with the device in the water. If more than one type of device is available, try to get every person to try all devices in the water. CAUTION: Type IV devices (seat cushions, ring buoys, etc.) are NOT designed to be worn. DO NOT teach any form of wearing a Type IV device. It is designed to be a throwable device and a temporary flotation aid until self-rescue or assistance is successful. In fact it might be a good idea to relegate the Type IV devices to Station 3.

As with station 3, this session can also get out of hand. Keep a close watch on the activities of the entire group. Curtail horseplay and keep the group close together to maintain control.